

**CLAIM AMENDMENTS**

This listing of claims will replace all prior versions and listings of claims in the application:

1-28. (canceled)

29. (previously presented) A vaccine which is protective against *Mycoplasma bovis* mastitis in a bovine species comprising at least one inactivated or attenuated *Mycoplasma bovis* biotype and a pharmaceutically acceptable excipient.

30. (previously presented) The vaccine of claim 29, where the vaccine is protective against *Mycoplasma bovis* mastitis in a bovine species following systemic administration.

31-39. (canceled)

40. (previously presented) The vaccine of claim 30 wherein, when the vaccine is administered to a plurality of cows in a herd of cows, the incidence of mastitis caused by *Mycoplasma bovis* in the herd before administering is greater than the incidence of mastitis caused by *Mycoplasma bovis* in the herd after administering.

41. (previously presented) The vaccine of claim 40 wherein the vaccine is administered to at least about 50% of the herd.

42. (previously presented) The vaccine of claim 41 where the vaccine is administered together with an adjuvant.

43. (previously presented) The vaccine of claim 42 wherein the adjuvant is an aluminum hydroxide-oil emulsion; a mineral, vegetable, or fish oil-water emulsion; a water-oil-water emulsion; incomplete Freund's adjuvant; *E. coli* J5; dextran sulfate; iron oxide; sodium alginate; Bacto-Adjuvant; a synthetic polymer; Carbopol; a poly-amino acid; a co-polymer of

amino acids; saponin; carrageenan; REGRESSIN®; N, N-dioctadecyl-N'-N'-bis(2-hydroxyethyl) propanediamine; a long chain polydispersed  $\beta(1,4)$  linked mannan polymer interspersed with O-acetylated groups; deproteinized cell wall extracts from a non-pathogenic strain of *Mycobacterium*; mannite monooleate; paraffin oil; or muramyl dipeptide.

44. (previously presented) The vaccine of claim 30 where the *Mycoplasma bovis* biotype is inactivated and has been inactivated by treatment with: formalin, azide, freeze-thawing, sonication, heat, sudden pressure drop, detergent, lysozyme, phenol, proteolytic enzymes,  $\beta$ -propiolactone, Thimerosal, or binary ethyleneimine.

45. (previously presented) The vaccine of claim 44 where the *Mycoplasma bovis* biotype has been inactivated by treatment with  $\beta$ -propiolactone.

46-56. (canceled)